TEJUS
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GRADATION FOR GSB
(As per MORT&H 400-1,Grading-II)

Name of Work	:	Developments works to be under taken in Ward No.05 of BBMP around Solid Waste Disposal Processing units Bellahalli, Bagaluru and Kattigenahalli Byatarayanapura Constituency.
Client	:	BRUHAT BANGALORE MAHANAGARA PALIKE
Consultant	:	M/s Tejus Consultants
Contractor	:	Sri.A G Narayana Swamy.
Date of Testing	:	20-12-2021
Type of Mix	:	GSB
Sample I/D	:	GSB1

Sample Location:	Chokkanahalli Layout (Temple side road)	**Date of Sampling:**	19-12-2021	
		Date of testing:	20-12-2021	
Type of material & Purpose:	GSB	**Oven Dry Wt.(gms):**	10000.0	

IS Sieve size in mm	Weight retained	Cummulative weight retained (gm)	Cummulative % of retained	Cummulative % of passing	Specification limits
75	0	0	0.00	100.00	-
53	0	0	0.00	100.00	100.00
26.5	2242	2242	22.42	77.58	70-100
9.5	2455	4697	46.97	53.03	50-80
4.75	890	5587	55.87	44.13	40-65
2.36	1201	6788	67.88	32.12	30-50
0.425	1988	8776	87.76	12.24	10-15
0.075	840	9616	96.16	3.84	<5
Pan	384.0				
Total	10000.0				

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4.The material used in the site satisfied the standard of MORTH's 5th revision and hence can be used in the work.

TEJUS CONSULTANTS

Authorised Signatory

Asst. Executive Engineer
Project Division
Yelahanka Zone
BBMP, Bangalore - 92

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Project	Developments works to be under taken in Ward No.05 of BBMP around Solid Waste Disposal Processing units Bellahalli, Bagaluru and Kattigenahalli Byatarayanapura Constituency.		
Client	BRUHAT BANGALORE MAHANAGARA PALIKE		
Consultant	M/s Tejus Consultants		
Contractor	Sri.A G Narayana Swamy.		
Field Dry Density test by Sand Replacement Method (As per IS 2720 (Part 28))			
Date of Testing	**22-12-2021**		
Layer no. or level	GSB layer		
Depth of hole	150mm		
Field density:	**1**	**2**	**2**
Chainage / Location	**Agrahara layout Road to Thirumenahalli Arch Road@96**	**C/s Rd 1 @25.00**	**C/s Rd 2 @30.00**
Wt. of wet material from hole (Ww) gms.	5987	5970	5990
Wt. of sand+cylinder before pouring (w1) gms.	15000	15000	15000
Wt. of sand+cylinder after pouring (w2) gms.	10585	10583	10575
Wt. of sand in hole+ cone (w3) gms.	4415	4417	4425
Wt. of cone gms.	1080	1080	1080
Wt. of sand gms.	3335	3337	3345
Bulk density of sand (γs)gm/cc	1.32	1.32	1.32
Bulk density of material(i.e. wt. of the wet material) (γb)=(Ww/w4*(γs))gm/cc	2.37	2.36	2.36
Moisture meter reading(moisture content)	6.50	6.40	6.40
Result			
FDD(Wt.of the dry material)=(100γb/100+mc)gm/cc	2.23	2.22	2.22
MDD	2.25	2.25	2.25
OMC	6.30%	6.30%	6.30%
% compaction obtained	98.89	98.64	98.74
% compaction required	98%	98%	98%

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Asst. Executive Engineer
Project Division
Yelahanka Zone
BBMP, Bangalore - 92

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Project	Developments works to be under taken in Ward No.05 of BBMP around Solid Waste Disposal Processing units Bellahalli, Bagaluru and Kattigenahalli Byatarayanapura Constituency.		
Client	BRUHAT BANGALORE MAHANAGARA PALIKE		
Consultant	M/s Tejus Consultants		
Contractor	Sri.A G Narayana Swamy.		
Field Dry Density test by Sand Replacement Method (As per IS 2720 (Part 28))			
Date of Testing	**23-12-2021**		
Layer no. or level	GSB layer		
Depth of hole	150mm		
Field density:	**1**	**2**	**2**
Chainage / Location	**Agrahara layout Road to Thirumenahalli Arch Road@247**	**Agrahara layout Road to Thirumenahalli Arch Road@30**	**Agrahara layout Road to Thirumenahalli Arch Road@30**
Wt. of wet material from hole (Ww) gms.	5995	5980	5978
Wt. of sand+cylinder before pouring (w1) gms.	15000	15000	15000
Wt. of sand+cylinder after pouring (w2) gms.	10575	10578	10581
Wt. of sand in hole+ cone (w3) gms.	4425	4422	4419
Wt. of cone gms.	1080	1080	1080
Wt. of sand gms.	3345	3342	3339
Bulk density of sand (γs)gm/cc	1.32	1.32	1.32
Bulk density of material(i.e. wt. of the wet material) (γb)=(Ww/w4*(γs))gm/cc	2.37	2.36	2.36
Moisture meter reading(moisture content)	6.50	6.40	6.40
Result			
FDD(Wt.of the dry material)=(100γb/100+mc)gm/cc	2.22	2.22	2.22
MDD	2.25	2.25	2.25
OMC	6.30%	6.30%	6.30%
% compaction obtained	98.73	98.66	98.72
% compaction required	98%	98%	98%

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Asst. Executive Engineer
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Project	Developments works to be under taken in Ward No.05 of BBMP around Solid Waste Disposal Processing units Bellahalli, Bagaluru and Kattigenahalli Byatarayanapura Constituency.
Client	Bruhat Bengaluru Mahanagara Palike
Consultant	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
Contractor	Sri.A G Narayana Swamy.

AGGREGATE IMPACT VALUE (IS: 2386 Part - 4)

Proposed Use	WMM	**Date of Sampling**	**23-12-2021**
Sample Location	Chokkanahalli Layout (Temple side road)	**Date of Testing**	**24-12-2021**

Sl. No.	Description		Test No. 1	Test No. 2	Test No. 3	Spec Limit (%)
1	Wt. of stone pieces (dry) passing IS Sieve 12.5mm but retained in IS sieve 10mm (gm)	(Wa)	354.00	373.00	348.00	
2	Wt. of the fraction retained in IS sieve 2.36mm after the impact test (gm)	(Wb)	270.00	284.00	265.00	
3	Wt. of the fraction passed in IS sieve 2.36mm after the impact test (gm)	(Wc)	84.00	89.00	83.00	
4	Aggregate Impact Value (%)	(Wc/Wa)*100	23.73	23.86	23.85	
5	Average Aggregate impact value	(%)	23.81			Max - 30 %

Remarks : Satisfactory / Not Satisfactory

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Consultant's Representative

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Project Division
Yelahanka Zone
BBMP, Bangalore - 92

Project	Developments works to be under taken in Ward No.05 of BBMP around Solid Waste Disposal Processing units Bellahalli, Bagaluru and Kattigenahalli Byatarayanapura Constituency.
Client	Bruhat Bengaluru Mahanagara Palike
Consultant	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
Contractor	Sri.A G Narayana Swamy.

FLAKINESS AND ELONGATION INDICES (IS 2386, PART 1)

Type of Material	WMM	**Proposed Use**	**WMM**
Sample Location	Chokkanahalli Layout (Temple side road)	**Date of Sampling**	**23-12-2021**
		Date of Testing	**24-12-2021**

Size of aggregate		**Flakiness Index**		**Elongation Index**	
Passing through IS sieve, mm	**Retained on IS sieve, mm**	**Total wt. of aggregate retained on sieves (A) gms.**	**Wt. of aggregate passing from Flakiness gauge (B) gms**	**Wt. of aggregate retained on Flakiness gauge (C) gms**	**Wt. of aggregate retained on Elongation gauge after retained on Flakiness gauge(D)gms**
63.0	50.0	0	0	0	0
50.0	40.0	0	0	0	0
40.0	31.5	0	0	0	0
31.5	25.0	0	0	0	0
25.0	20.0	0	0	0	0
20.0	16.0	647	85	522	77
16.0	12.5	1130	122	978	110
12.5	10.0	775	60	720	57
10.0	6.3	615	65	566	45
Total		**3167**	**332**	**2786**	**289**

Note: Minimum 200 Pcs should be taken on each fraction of test

Flakiness Index(%):	10.48
Elongation Index(%):	10.37
Combined FI+EL (%)	20.86

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Asst. Executive Engineer
Project Division
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BBMP, Bangalore - 92

Consultant's Representative

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Name of Work	:	Developments works to be under taken in Ward No.05 of BBMP around Solid Waste Disposal Processing units Bellahalli, Bagaluru and Kattigenahalli Byatarayanapura Constituency.
Client	:	Bruhat Bengaluru Mahanagara Palike
Consultant	:	TEJUS CONSULTANTS, Basaveshwar Nagar Bangalore
Contractor	:	Sri.A G Narayana Swamy.
Date of Testing	:	24-12-2021
Type of Mix	:	WMM
Sample I/D	:	WMM 1

GRADATION FOR WMM
(As per MORT&H 400-11)

Sample Location:	Chokkanahalli Layout (Temple side road)	Date of Sampling:	23-12-2021
		Date of testing:	24-12-2021
Type of material & Purpose:	WMM	Oven Dry Wt.(gms):	10000.0

IS Sieve size in mm	Weight retained	Cummulative weight retained (gm)	Cummulative % of retained	Cummulative % of passing	Specification limits
53	0	0	0.00	100.00	100.00
45	385	385	3.85	96.15	95-100
22.4	1780	2165	21.65	78.35	60-80
11.2	2255	4420	44.20	55.80	40-60
4.75	2015.0	6435	64.35	35.65	25-40
2.36	1388.0	7823	78.23	21.77	15-30
0.6	770.0	8593	85.93	14.07	8.0-22.0
0.075	881.0	9474	94.74	5.26	0-8
Pan	526.0	10000			
Total	10000.0				

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Yelahanka Zone
BBMP, Bangalore - 92

Project	Developments works to be under taken in Ward No.05 of BBMP around Solid Waste Disposal Processing units Bellahalli, Bagaluru and Kattigenahalli Byatarayanapura Constituency.	
Client	Bruhat Bengaluru Mahanagara Palike	
Consultant	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore	
Contractor	Sri.A G Narayana Swamy.	
Field Dry Density test by Sand Replacement Method (As per IS 2720 (Part 28)		
	Date:	**27-12-2021**
Layer no. or level	WMM I layer	
Depth of hole	200mm	
Field density:	**1**	**2**
Chainage / Location	**Chokkanahalli Layout (Temple side road) '@66**	**Chokkanahalli Layout (Temple side road) '@133**
Wt. of wet material from hole (Ww) gms.	5988	5993
Wt. of sand+cylinder before pouring (w1) gms.	15000	15000
Wt. of sand+cylinder after pouring (w2) gms.	10594	10590
Wt. of sand in hole+ cone (w3) gms.	4406	4410
Wt. of cone gms.	1080	1080
Wt. of sand gms.	3326	3330
Bulk density of sand (γs)gm/cc	1.32	1.32
Bulk density of material(i.e. wt. of the wet material) (γb)=(Ww/w4*(γs))gm/cc	2.38	2.38
Moisture meter reading(moisture content)	6.40	6.20
Result		
FDD(Wt.of the dry material)=(100γb/100+mc)gm/cc	2.23	2.24
MDD	2.27	2.27
OMC	6.10%	6.10%
% compaction obtained	98.39	98.54
% compaction required	98%	98%

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Asst. Executive Engineer
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Project	Developments works to be under taken in Ward No.05 of BBMP around Solid Waste Disposal Processing units Bellahalli, Bagaluru and Kattigenahalli Byatarayanapura Constituency.	
Client	Bruhat Bengaluru Mahanagara Palike	
Consultant	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore	
Contractor	Sri.A G Narayana Swamy.	
Field Dry Density test by Sand Replacement Method (As per IS 2720 (Part 28)		
	Date:	**29-12-2021**
Layer no. or level	WMM I layer	
Depth of hole	200mm	
Field density:	**1**	**2**
Chainage / Location	**C/s Rd from Agrahara layout Road to Thirumenahalli Arch Road '@273**	**C/s Rd from Agrahara layout Road to Thirumenahalli Arch Road '@328**
Wt. of wet material from hole (Ww) gms.	5995	5979
Wt. of sand+cylinder before pouring (w1) gms.	15000	15000
Wt. of sand+cylinder after pouring (w2) gms.	10596	10597
Wt. of sand in hole+ cone (w3) gms.	4404	4403
Wt. of cone gms.	1080	1080
Wt. of sand gms.	3324	3323
Bulk density of sand (γs)gm/cc	1.32	1.32
Bulk density of material(i.e. wt. of the wet material) (γb)=(Ww/w4*(γs))gm/cc	2.38	2.38
Moisture meter reading(moisture content)	6.30	6.30
Result		
FDD(Wt.of the dry material)=(100γb/100+mc)gm/cc	2.24	2.23
MDD	2.27	2.27
OMC	6.10%	6.10%
% compaction obtained	98.66	98.43
% compaction required	98%	98%

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Project	Developments works to be under taken in Ward No.05 of BBMP around Solid Waste Disposal Processing units Bellahalli, Bagaluru and Kattigenahalli Byatarayanapura Constituency.
Client	Bruhat Bengaluru Mahanagara Palike
Consultant	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
Contractor	Sri.A G Narayana Swamy.

FLAKINESS AND ELONGATION INDICES (IS 2386, PART 1)

Type of Material		DBM		**Proposed Use**	**DBM**
Sample Location		At plant		**Date of Sampling**	**04-01-2022**
				Date of Testing	**04-01-2022**
Size of aggregate		**Flakiness Index**		**Elongation Index**	
Passing through IS sieve, mm	**Retained on IS sieve, mm**	**Total wt. of aggregate retained on sieves (A) gms.**	**Wt. of aggregate passing from Flakiness gauge (B) gms**	**Wt. of aggregate retained on Flakiness gauge (C) gms**	**Wt. of aggregate retained on Elongation gauge after retained on Flakiness gauge(D)gms**
63.0	50.0	0	0	0	0
50.0	40.0	0	0	0	0
40.0	31.5	7395	678	7065	345
31.5	25.0	4265	234	3568	285
25.0	20.0	2465	248	1865	220
20.0	16.0	1544	330	966	261
16.0	12.5	588	111	460	196
12.5	10.0	498	72	275	95
10.0	6.3	139	84	84	65
Total		**16894**	**1757**	**14283**	**1467**

Results

Flakiness Index(%):	10.40
Elongation Index(%):	10.27
Combined FI+EL (%)	20.67

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Asst. Executive Engineer
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Project	Developments works to be under taken in Ward No.05 of BBMP around Solid Waste Disposal Processing units Bellahalli, Bagaluru and Kattigenahalli Byatarayanapura Constituency.
Client	Bruhat Bengaluru Mahanagara Palike
Consultant	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
Contractor	Sri.A G Narayana Swamy.

AGGREGATE IMPACT VALUE (IS: 2386 Part - 4)

Proposed Use	DBM	**Date of Sampling**	**04-01-2022**
Sample Location	At plant	**Date of Testing**	**04-01-2022**

Sl. No.	Description		Test No. 1	Test No. 2	Test No. 3	Spec Limit (%)
1	Wt. of stone pieces (dry) passing IS Sieve 12.5mm but retained in IS sieve 10mm (gm)	(Wa)	375.00	364.00	381.00	
2	Wt. of the fraction retained in IS sieve 2.36mm after the impact test (gm)	(Wb)	284.00	275.00	286.00	
3	Wt. of the fraction passed in IS sieve 2.36mm after the impact test (gm)	(Wc)	91.00	89.00	95.00	
4	Aggregate Impact Value (%)	(Wc/Wa)*100	24.27	24.45	24.93	
5	Average Aggregate impact value	(%)	24.55			Max - 30 %

Remarks : Satisfactory / Not Satisfactory

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Client	Bruhat Bengaluru Mahanagara Palike
Consultant	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
Contractor	Sri.A G Narayana Swamy.

AGGREGATE IMPACT VALUE (IS: 2386 Part - 4)

Proposed Use	BC	**Date of Sampling**	**05-01-2022**
Sample Location	At plant	**Date of Testing**	**05-01-2022**

Sl. No.	Description		Test No. 1	Test No. 2	Test No. 3	Spec Limit (%)
1	Wt. of stone pieces (dry) passing IS Sieve 12.5mm but retained in IS sieve 10mm (gm)	(Wa)	378.00	362.00	346.00	
2	Wt. of the fraction retained in IS sieve 2.36mm after the impact test (gm)	(Wb)	280.00	270.00	258.00	
3	Wt. of the fraction passed in IS sieve 2.36mm after the impact test (gm)	(Wc)	98.00	92.00	88.00	
4	Aggregate Impact Value (%)	(Wc/Wa)*100	25.93	25.41	25.43	
5	Average Aggregate impact value	(%)	25.59			Max - 30 %

Remarks : Satisfactory / Not Satisfactory

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Client	Bruhat Bengaluru Mahanagara Palike
Consultant	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
Contractor	Sri.A G Narayana Swamy.

FLAKINESS AND ELONGATION INDICES (IS 2386, PART 1)

Type of Material	BC		**Proposed Use**	**BC**
Sample Location	At plant		**Date of Sampling**	05-01-2022
			Date of Testing	05-01-2022

Size of aggregate		**Flakiness Index**		**Elongation Index**	
Passing through IS sieve, mm	**Retained on IS sieve, mm**	**Total wt. of aggregate retained on sieves (A) gms.**	**Wt. of aggregate passing from Flakiness gauge (B) gms**	**Wt. of aggregate retained on Flakiness gauge (C) gms**	**Wt. of aggregate retained on Elongation gauge after retained on Flakiness gauge(D)gms**
63.0	50.0	0	0	0	0
50.0	40.0	0	0	0	0
40.0	31.5	0	0	0	0
31.5	25.0	0	0	0	0
25.0	20.0	0	0	0	0
20.0	16.0	966	89	963	76
16.0	12.5	1308	111	1241	122
12.5	10.0	522	78	436	58
10.0	6.3	490	65	422	60
Total		**3286**	**343**	**3062**	**316**

Note: Minimum 200 Pcs should be taken on each fraction of test

Flakiness Index(%):	10.44
Elongation Index(%):	10.32
Combined FI+EL (%)	20.76

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Consultant's Representative

TEJUS
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DETERMINATION OF RATE OF SPREAD TACK COAT				
Name of Work :	Developments works to be under taken in Ward No.05 of BBMP around Solid Waste Disposal Processing units Bellahalli, Bagaluru and Kattigenahalli Byatarayanapura Constituency.			
Client :	BRUHAT BANGALORE MAHANAGARA PALIKE			
Consultant :	M/s Tejus Consultants			
Contractor :	Sri.A G Narayana Swamy.			
Date of Testing :	06-01-2022			
Type of Mix :	Tack coat			
Sample I/D :	3			
Location :	Agrahara Layout Main Road			
Determination	**Unit**	**Test No**		
		1	2	3
Loacation	**Chainage**	**@118**	**@213**	**@332**
Size of Plate (mxm)	Mt	0.30 x .30	0.30 x .30	0.30 x .30
Area of Plate (a)	Sq.mtr	0.09	0.09	0.09
Initial Wt of empty Plate (b)	Kg	0.803	0.850	0.778
Final weight of plate after application of tack Coat (c)	Kg	0.826	0.873	0.801
Weight of tack Coat (d=c-b)	Kg	0.023	0.023	0.023
Rate of spread of tack coat	Kg/sq.m	0.253	0.252	0.253
Average	Kg/sq.m	0.253		
Specified Limit	Kg/sq.m	**0.250 Kg/sq.m**		

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4. The material used in the site satisfied the standard of MORTH's 5th revision and hence can be used in the work.

Consultant's Representative

Asst. Executive Engineer
Project Division
Yelahanka Zone
BBMP, Bangalore - 92

TEJUS
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DETERMINATION OF RATE OF SPREAD TACK COAT				
Name of Work :	Developments works to be under taken in Ward No.05 of BBMP around Solid Waste Disposal Processing units Bellahalli, Bagaluru and Kattigenahalli Byatarayanapura Constituency.			
Client :	BRUHAT BANGALORE MAHANAGARA PALIKE			
Consultant :	M/s Tejus Consultants			
Contractor :	Sri.A G Narayana Swamy.			
Date of Testing :	06-01-2022			
Type of Mix :	Tack coat			
Sample I/D :	4			
Location :	Agrahara Layout Main Road			
Determination	**Unit**	**Test No**		
		1	2	3
Loacation	**Chainage**	**@466**	**@540**	**@693**
Size of Plate (mxm)	Mt	0.30 x .30	0.30 x .30	0.30 x .30
Area of Plate (a)	Sq.mtr	0.09	0.09	0.09
Initial Wt of empty Plate (b)	Kg	0.790	0.805	0.778
Final weight of plate after application of tack Coat (c)	Kg	0.813	0.828	0.801
Weight of tack Coat (d=c-b)	Kg	0.023	0.023	0.023
Rate of spread of tack coat	Kg/sq.m	0.252	0.254	0.252
Average	Kg/sq.m	0.253		
Specified Limit	Kg/sq.m	**0.250 Kg/sq.m**		

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Project Division
Yelahanka Zone
BBMP, Bangalore - 92

Consultant's Representative

TEJUS
CONSULTANTS

BITUMEN CONTENT AND GRADATION DETERMINATION OF DENSE BITUMINOUS MACADAM MIX

Name of Work	:	Developments works to be under taken in Ward No.05 of BBMP around Solid Waste Disposal Processing units Bellahalli, Bagaluru and Kattigenahalli Byatarayanapura Constituency.
Client	:	Bruhat Bengaluru Mahanagara Palike
Consultant	:	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
Contractor	:	Sri.A G Narayana Swamy.
Date of Testing	:	06-01-2022
Type of Mix	:	DBM
Sample I/D	:	DBM-3

DETERMINATION OF BITUMEN CONTENT

Description	Trail 1	Trail 2
1. Weight of Mixture before extraction, g	892	923
2. Weight of Mixture after extraction, g	853	883
3. Weight of Bitumen	39	40
4. Weight of filter paper before extraction, g	2.00	2.00
5. Weight of filter paper after extraction, g	4.00	4.00
6. Weight of fines, g	2.00	2.00
7. Weight of Bitumen & fines	41.00	42.00
8. Bitumen content in %	4.60	4.55
9. Average Bitumen content in %	4.57	
10. Minimum Bitumen content in %	4.50	

GRADATION FOR DBM AFTER EXTRACTION

(As per MORT&H 500-10,Grading-2)

Sample Location:	Agrahara Layout Main Road	**Date of Sampling:**	06-01-2022
		Date of testing:	06-01-2022
Type of material & Purpose:	DBM	**Oven Dry Wt.(gms):**	853

IS Sieve size in mm	Weight retained	Cummulative weight retained (gm)	Cummulative % of retained	Cummulative % of passing	Specification limits
37.50	0.0	0.0	0.00	100.00	100.00
26.50	42.0	42.0	4.92	95.08	90-100
19.00	128.0	170.0	19.93	80.07	71-95
13.20	118.0	288.0	33.76	66.24	56-80
4.750	160.0	448.0	52.52	47.48	38-54
2.360	105.0	553.0	64.83	35.17	28-42
0.300	183.0	736.0	86.28	13.72	7-21
0.075	65.0	801.0	93.90	6.10	2-8
Pan	62.0	863.0			
Total	853.0				

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Asst. Executive Engineer
BBMP, Bangalore - 92

TEJUS CONSULTANTS

Consultant's Representative

TEJUS
CONSULTANTS

BITUMEN CONTENT AND GRADATION DETERMINATION OF DENSE BITUMINOUS MACADAM MIX

Name of Work	:	Developments works to be under taken in Ward No.05 of BBMP around Solid Waste Disposal Processing units Bellahalli, Bagaluru and Kattigenahalli Byatarayanapura Constituency.
Client	:	Bruhat Bengaluru Mahanagara Palike
Consultant	:	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
Contractor	:	Sri.A G Narayana Swamy.
Date of Testing	:	06-01-2022
Type of Mix	:	DBM
Sample I/D	:	DBM-4

DETERMINATION OF BITUMEN CONTENT

Description	Trail 1	Trail 2
1. Weight of Mixture before extraction, g	895	935
2. Weight of Mixture after extraction, g	856	894
3. Weight of Bitumen	39	41
4. Weight of filter paper before extraction, g	2.00	2.00
5. Weight of filter paper after extraction, g	4.00	4.00
6. Weight of fines, g	2.00	2.00
7. Weight of Bitumen & fines	41.00	43.00
8. Bitumen content in %	4.58	4.60
9. Average Bitumen content in %	4.59	
10. Minimum Bitumen content in %	4.50	

GRADATION FOR DBM AFTER EXTRACTION

(As per MORT&H 500-10,Grading-2)

Sample Location:	Agrahara Layout Main Road	**Date of Sampling:**	06-01-2022
		Date of testing:	06-01-2022
Type of material & Purpose:	DBM	**Oven Dry Wt.(gms):**	856

IS Sieve size in mm	Weight retained	Cummulative weight retained (gm)	Cummulative % of retained	Cummulative % of passing	Specification limits
37.50	0.0	0.0	0.00	100.00	100.00
26.50	42.0	42.0	4.91	95.09	90-100
19.00	128.0	170.0	19.86	80.14	71-95
13.20	118.0	288.0	33.64	66.36	56-80
4.750	160.0	448.0	52.34	47.66	38-54
2.360	105.0	553.0	64.60	35.40	28-42
0.300	183.0	736.0	85.98	14.02	7-21
0.075	65.0	801.0	93.57	6.43	2-8
Pan	62.0	863.0			
Total	856.0				

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Asst. Executive Engineer
Project Division No.02
Yelahanka Zone
BBMP, Bangalore

Consultant's Representative

TEJUS
CONSULTANTS

BITUMEN CONTENT AND GRADATION DETERMINATION OF BITUMINOUS CONCRETE MIX

Name of Work	:	Developments works to be under taken in Ward No.05 of BBMP around Solid Waste Disposal Processing units Bellahalli, Bagaluru and Kattigenahalli Byatarayanapura Constituency.
Client	:	Bruhat Bengaluru Mahanagara Palike
Consultant	:	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
Contractor	:	Sri.A G Narayana Swamy.
Date of Testing	:	07-01-2022
Type of Mix	:	BC
Sample I/D	:	BC3

DETERMINATION OF BITUMEN CONTENT

Description	Trail 1	Trail 2
1. Weight of Mixture before extraction, g	900	952
2. Weight of Mixture after extraction, g	853	902
3. Weight of Bitumen	47	50
4. Weight of filter paper before extraction, g	2.00	2.15
5. Weight of filter paper after extraction, g	4.10	4.00
6. Weight of fines, g	2.10	1.85
7. Weight of Bitumen & fines	49.10	51.85
8. Bitumen content in %	5.46	5.45
9. Average Bitumen content in %	**5.45**	
10. Minimum Bitumen content in %	**5.40**	

GRADATION FOR BC AFTER EXTRACTION

(As per MORT&H 500-18,Grading-2)

Sample Location:	Agrahara Layout Main Road	Date of Sampling:	**07-01-2022**
		Date of testing:	**07-01-2022**
Type of material & Purpose:	BC	Oven Dry Wt.(gms):	853.0

IS Sieve size in mm	Weight retained	Cummulative weight retained (gm)	Cummulative % of retained	Cummulative % of passing	Specification limits
19.00	0	0	0.00	100.00	100.00
13.20	84	84.0	9.85	90.15	79 - 100
9.50	122	206.0	24.15	75.85	71 - 95
4.75	102	308.0	36.11	63.89	53 - 71
2.360	112	420.0	49.24	50.76	42 - 58
1.180	105	525.0	61.55	38.45	34 - 48
0.600	75	600.0	70.34	29.66	26 - 38
0.300	78	678.0	79.48	20.52	18 - 28
0.150	49	727.0	85.23	14.77	12 - 20
0.075	68	795.0	93.20	6.80	4 - 10
Pan	58.0	853.0			
Total	853.0				

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Asst. Executive Engineer
Project Division
Yelahanka Zone
BBMP, Bangalore - 92

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BITUMEN CONTENT AND GRADATION DETERMINATION OF BITUMINOUS CONCRETE MIX

Name of Work	:	Developments works to be under taken in Ward No.05 of BBMP around Solid Waste Disposal Processing units Bellahalli, Bagaluru and Kattigenahalli Byatarayanapura Constituency.
Client	:	Bruhat Bengaluru Mahanagara Palike
Consultant	:	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
Contractor	:	Sri.A G Narayana Swamy.
Date of Testing	:	07-01-2022
Type of Mix	:	BC
Sample I/D	:	BC4

DETERMINATION OF BITUMEN CONTENT

Description	Trail 1	Trail 2
1. Weight of Mixture before extraction, g	899	951
2. Weight of Mixture after extraction, g	852	901
3. Weight of Bitumen	47	50
4. Weight of filter paper before extraction, g	2.00	2.15
5. Weight of filter paper after extraction, g	4.10	4.00
6. Weight of fines, g	2.10	1.85
7. Weight of Bitumen & fines	49.10	51.85
8. Bitumen content in %	5.46	5.45
9. Average Bitumen content in %	**5.46**	
10. Minimum Bitumen content in %	**5.40**	

GRADATION FOR BC AFTER EXTRACTION
(As per MORT&H 500-18,Grading-2)

Sample Location:	Agrahara Layout Main Road	Date of Sampling:	**07-01-2022**
		Date of testing:	**07-01-2022**
Type of material & Purpose:	BC	Oven Dry Wt.(gms):	852.0

IS Sieve size in mm	Weight retained	Cummulative weight retained (gm)	Cummulative % of retained	Cummulative % of passing	Specification limits
19.00	0	0	0.00	100.00	100.00
13.20	84	84.0	9.86	90.14	79 - 100
9.50	122	206.0	24.18	75.82	71 - 95
4.75	102	308.0	36.15	63.85	53 - 71
2.360	112	420.0	49.30	50.70	42 - 58
1.180	105	525.0	61.62	38.38	34 - 48
0.600	75	600.0	70.42	29.58	26 - 38
0.300	78	678.0	79.58	20.42	18 - 28
0.150	49	727.0	85.33	14.67	12 - 20
0.075	68	795.0	93.31	6.69	4 - 10
Pan	57.0	852.0			
Total	852.0				

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Asst. Executive Engineer
Project Division
Yelahanka Zone
BBMP, Bangalore - 92

TEJUS CONSULTANTS (P) LTD

Consultant's Representative

TEJUS
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DETERMINATION OF RATE OF SPREAD TACK COAT				
Name of Work :	Developments works to be under taken in Ward No.05 of BBMP around Solid Waste Disposal Processing units Bellahalli, Bagaluru and Kattigenahalli Byatarayanapura Constituency.			
Client :	BRUHAT BANGALORE MAHANAGARA PALIKE			
Consultant :	M/s Tejus Consultants			
Contractor :	Sri.A G Narayana Swamy.			
Date of Testing :	07-01-2022			
Type of Mix :	Tack coat			
Sample I/D :	3			
Location :	Agrahara Layout Main Road			
Determination	**Unit**	**Test No**		
		1	**2**	**3**
Location :	**Chainage**	**@76**	**@167**	**@288**
Size of Plate (mxm)	Mt	0.30 x .30	0.30 x .30	0.30 x .30
Area of Plate (a)	Sq.mtr	0.09	0.09	0.09
Initial Wt of empty Plate (b)	Kg	0.782	0.794	0.806
Final weight of plate after application of tack Coat (c)	Kg	0.805	0.817	0.829
Weight of tack Coat (d=c-b)	Kg	0.023	0.023	0.023
Rate of spread of tack coat	Kg/sq.m	0.253	0.253	0.254
Average	Kg/sq.m	0.254		
Specified Limit	Kg/sq.m	**0.250 Kg/sq.m**		

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Asst. Executive Engineer
Project Division
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BBMP, Bangalore - 92

Authorised Signatory

TEJUS CONSULTANTS
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TEJUS
CONSULTANTS

DETERMINATION OF RATE OF SPREAD TACK COAT

Name of Work :	Developments works to be under taken in Ward No.05 of BBMP around Solid Waste Disposal Processing units Bellahalli, Bagaluru and Kattigenahalli Byatarayanapura Constituency.
Client :	BRUHAT BANGALORE MAHANAGARA PALIKE
Consultant :	M/s Tejus Consultants
Contractor :	Sri.A G Narayana Swamy.
Date of Testing :	07-01-2022
Type of Mix :	Tack coat
Sample I/D :	4
Location :	Agrahara Layout Main Road

Determination	**Unit**	**Test No**		
		1	**2**	**3**
Location :	**Chainage**	**@345**	**@493**	**@648**
Size of Plate (mxm)	Mt	0.30 x .30	0.30 x .30	0.30 x .30
Area of Plate (a)	Sq.mtr	0.09	0.09	0.09
Initial Wt of empty Plate (b)	Kg	0.786	0.794	0.806
Final weight of plate after application of tack Coat (c)	Kg	0.809	0.817	0.829
Weight of tack Coat (d=c-b)	Kg	0.023	0.023	0.023
Rate of spread of tack coat	Kg/sq.m	0.253	0.253	0.254
Average	Kg/sq.m	0.254		
Specified Limit	Kg/sq.m	**0.250 Kg/sq.m**		

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